**NSDA Reference**

*To be added by NSDA*

**CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE**

**Name and address of submitting body:**

West Bengal State Council of Technical & Vocational Education and Skill Development

Karigari Bhavan(5th Floor), Plot-B/7, Action Area-III

New Town, Kolkata-700160

**Name and contact details of individual dealing with the submission**

**Name: SUPARNA KUMAR ROYCHOWDHURY**

**Position in the organisation: Chairman, Board of Studies and Skilling**

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**List of documents submitted in support of the Qualifications File**

1. Curriculum and Course Content
2. Assessment strategy

**SUMMARY**

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| --- | --- | --- | --- | --- |
| **Qualification Title** | Junior plumber | | | |
| **Qualification Code** |  | | | |
| **Nature and purpose of the qualification** | Short term Certificate Course  To become self-employed i.e. entrepreneurs or wage employed under MSME | | | |
| **Body/bodies which will award the qualification** | West Bengal State Council of Technical & Vocational Education and Skill Development | | | |
| **Body which will accredit providers to offer courses leading to the qualification** | Committee on Recognition under the West Bengal State Council of Technical & Vocational Education and Skill Development | | | |
| **Body/bodies which will carry out assessment of learners** | Board of Examination under the West Bengal State Council of Technical & Vocational Education and Skill Development | | | |
| **Occupation(s) to which the qualification gives access** | Plumbing work of water and sanitary fitting for rural and urban | | | |
| **Licensing requirements** | NA | | | |
| **Level of the qualification in the NSQF** | Level 3 | | | |
| **Anticipated volume of training/learning required to complete the qualification** | 650 hours | | | |
| **Entry requirements and/or recommendations** | Class VIII pass | | | |
| **Progression from the qualification** | Jr. Plumber --- Plumber Technician ------Plumber Contractor | | | |
| **Planned arrangements for the Recognition of Prior learning (RPL)** | RPL will consist of four stages   1. Counselling- To inform, advise and guide the candidates regarding RPL 2. Pre-Assessment- To assess the current competencies of the candidates and identifying the gap between the full qualification and current competencies. 3. Orientation &Bridge Training- To train the candidates for bridging the gap. 4. Final assessment & Certification- To assess the candidate for full qualification and certify. | | | |
| **International comparability where known** | N/A | | | |
| **Date of planned review of the qualification.** | Every3 years (Next Feb 2021) | | | |
| **Formal structure of the qualification**  After completion of course the passed out trainee can work as a Jr. Plumber and after two years of field experience the passed out trainee can work as a Plumber Technician and after that with appropriate experience, the person can work as a Plumber Contractor. | | | | |
| Title of component and identification code. | | Mandatory/ Optional | Estimated size (learning hours) | Level |
| Apply safe working Practices | | Mandatory | 25 | 3 |
| Identify hand tools used in plumbing and sanitary works and plumbing fittings. | | Mandatory | 50 | 3 |
| Identify various types of taps, valves and their location of use. | | Mandatory | 50 | 3 |
| Identify different layout of plumbing and sanitary pipe networks. | | Mandatory | 50 | 3 |
| Detect damage in taps, pipelines and suggest rectification/repair. | | Mandatory | 100 | 3 |
| Ability to install sanitary pipes and plumbing pipes with fittings. | | Mandatory | 100 | 3 |
| Construction of pipe connection in septic tank, sawpit and well type toilet. | | Mandatory | 50 | 3 |
| Perform gas welding on metal pipes. Identify defects in welding | | Mandatory | 50 | 3 |
| Understand diagram and drawing used for plumbing and sanitary works. | | Mandatory | 50 | 3 |
| Ability to draw free hand snatches for plumbing and sanitary works. | | Mandatory | 50 | 3 |
| Understand and practice soft skills | | Mandatory | 25 | 3 |
| Demonstrate knowledge of concept and principles of basic arithmetic and financial calculation, and apply knowledge of specific area to perform practical operations. | | Mandatory | 25 | 3 |
| Explain time management, entrepreneurship and manage/organize related task in day to day work for personal & social growth. | | Mandatory | 25 | 3 |

| **Title of component and identification code.** | **Mandatory/Optional** | **Estimated size (learning hours)** | **Level** |
| --- | --- | --- | --- |
| **I. Theory**  **Theory component of the course is to develop relevant basic technical information & knowledge about plumbing and sanitary works**  **II. Practical**  **Institutional component of Practical training of the course is to impart relevant basic technical skills to perform plumbing and laying of sanitary pipe network using various tools & instruments maintaining basic safety.**  **III. Employability Skills**  **Employability Skills component of the course is to impart Soft skills which include Communication Skills, Behaviour, IT literacy, Entrepreneurship Skills, Safety, Hygiene etc.** | **Mandatory**  **Mandatory**  **Mandatory**  **Mandatory** | **100**  **450**  **100** | **3**  **3**  **3**  **3** |
| **Total (I+II+III)** |  | **650** |  |

1. Curriculum Document is attached in Annexure-1.
2. Assessment Strategy Component wise distribution of marks is given in the Annexure No. 2
3. Industry Validation

**SECTION 1**

**ASSESSMENT**

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| **Body/Bodies which will carry out assessment:**  Board of Examination under West Bengal State Council of Technical & Vocational Education & Skill Development, constituted under the ACT XXVI of 2013 under Department of Technical Education, Training & Skill Development, Govt. of West Bengal  **How will RPL assessment be managed and who will carry it out?**  RPL will consist of four stages   1. Counselling- To inform, advise and guide the candidates regarding RPL 2. Pre-Assessment- To assess the current competencies of the candidates and identifying the gap between the full qualification and current competencies. 3. Orientation &Bridge Training- To train the candidates for bridging the gap. 4. Final assessment & Certification- To assess the candidate for full qualification and certify.   RPL assessment will be managed by PBSSD (Paschim Banga Society for Skill Development) under Department of Technical Education, Training & Skill Development, Govt. of West Bengal.  **Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.**  Assessment will be carried out by Board of Examination under West Bengal State Council of Technical & Vocational Education & Skill Development, under Department of Technical Education, Training & Skill Development, Govt. of West Bengal.  The Council has all necessary infrastructure and pool of qualified Assessors/ Examiners to carry out such assessments. Presently the Council is conducting all examinations for all courses which includeDiploma Courses, Vocational Courses in VIII+ level and X+2 level &other Short term Courses. Council also conducts all State Level Entrance tests like JEXPO for admission to Diploma Courses in Polytechnics, VOCLET for lateral entry to Diploma Courses in Polytechnics and CET (Common Entrance Test ) for admission to NCVT courses in ITIs. |

**ASSESSMENT EVIDENCE**

**Complete a grid for each component as listed in “Formal structure of the qualification” in the Summary.**

*NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – ie Learning Outcomes to be assessed, assessment criteria and the means of assessment.*

**Title of Component:**

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| --- | --- |
| **Outcomes to be assessed** | **Assessment criteria for the outcome** |
| 1. Apply safe working Practices | (1.1) Assessor will note whether the trainee is maintaining procedures to achieve a safe working environment in line with occupational health and safety regulations and requirements according to site policy.  (1.2) Assessor can judge the traineeon his ability to recognize any unsafe situations according to site policy, and assess his report accordingly.  (1.3) Assessor will note whether the trainee can identify and take necessary precautions on fire and safety hazards and report according to site policy and procedures.  (1.4) Assessor will ask the trainee to demonstrate safety alarms accurately.  (1.5) Assessor will assess the report/recordsubmitted by trainee to supervisor/ Competent of authority in the event of accident or sickness of any staff, including accident details according to site accident/injuryprocedures  (1.6) Trainee will be asked to demonstrate Personal Productive Equipment (PPE) and use the same as per related working environment.  (1.7) Trainee will be asked to demonstrate basic first aid & CPR and use them under different circumstances.  (1.8) Trainee will be asked to identify different fire extinguishers and to use the same as per requirement in a mock drill |
| 2. Identify Hand tools and fittings. | (2.1)Assessor will note that the trainee can identify various types of tools by showing them.  (2.2)Assessor will note that the trainee can identify different Sanitary and Plumbing fittings by showing them. |
| 3.Identify various types of taps,  valves. | (3.1)Assessor will note that the trainee cans recognice different taps and valves by showing them.  (3.2)Assessor will observe whether the trainee can suggest valves /taps as per their location in pipelines. |
| 4. Identify different layout of  plumbing and sanitary pipe  networks. | (4.1)Trainee will be asked to recognice the type of pipe network used in an existing building.  (4.2)trainee will be asked to recogice an existing Sanitary network |
| 5.Detectdamage in taps, pipelines and suggest rectification /repair | (5.1)Trainee will be asked to identify fault in a damaged pipe network.  (5.2)Assessor will observe wheather the trainee can suggest right of repairing a damaged tap.  (5.3)Assessor will note wheather the trainee can give an estimated **was**of repairing /replacing the tap. |
| 6. Ability to install Sanitary pipes and plumbing pipes. | (6.1)Assessor will note wheather the trainee can install pipeline is building wall or underground.  (6.2)Trainee will be asked to demonstrate pipe joints.  (6.3)Trainee will be asked to check if there is any leakage in pipelines. |
| 7.Construction of pipe connection to Septic Tanks, sawpit and well type toilet. | (7.1)Trainee will be asked to show the pipe connection in a dummy septic tank and soak pit.  (7.2) Trainee will be asked to identify and name different components of septic tank.  (7.3) Trainee will be asked to answer the health hazard in working  atan existing septic tanks and suggest precautionary safety measures. |
| 8.Understand diagrams and drawings used for plumbing and sanitary works | (8.1)Assessor will show an existing sanitary and plumbing drawing and ask the trainee to explain them.  (8.2)Trainee should be able to answer the name of symbols used in drawings of sanitary and plumbing works |
| 9. Perform gas welding in metal pipes. | (9.1)Trainee will be asked to join two iron pipes by gas welding.  (9.2)Trainee will be asked to answer the methods of identifying defects in welding and their prevention. |
| 10.Ability to draw free hand sketches for plumbing and sanitary works. | (10.1)Trainee will be asked to draw a free hand sketch of a sanitary /plumbing pipeline network.  (10.2)Trainee should be able to lebel the free hand sketch drawn by him /her. |
| 11.Understand and practice soft skills | (11.2): Assessor will rate the trainee on his ability to practice soft skills, including clear and concise communication, in day to day work with team and with higher authority |
| 12. Demonstrate knowledge of concept and principles of basic arithmetic and financial calculation, and apply knowledge of specific area to perform practical operations. | (12.2):Apply basic arithmetic calculations for arriving dimensional parameters as per drawing.  (12.2): Apply basic financial calculation to understand cost of materials &labour and basic concepts of profit/loss,  (12.2): Engage in basic banking transactions as customer |
| 13. Explain time management, entrepreneurship and manage/organize related task in day to day work for personal & social growth. | (13.2): Ascertain appropriate time for the assigned task.  (13.2): Manage own work within specified time.  (13.2): Explain importance & factors affect the development of entrepreneurship.  (13.2):Identify service providers for developingentrepreneur/business establishment. |
| **Means of assessment 1**  There will be two types of Assessments viz. Formative and Summative. The Formative Assessment will be carried out continuously during the conduct of course and Summative Assessment will be carried out at the end of the course. Details are mentioned under means of Assessment-2. Written test, Practical examination/ Skill test & Viva voce | |
| **Means of assessment 2**   1. **Means of Formative Assessment (Total marks allotted- 350)** 2. Assignments for each module of Theory component 3. Assignments for each module of Employability Skills component 4. Continuous evaluation of each module of Practical 5. **Means of Summative Assessment(Total marks allotted- 650)** 6. Written test for Theory component 7. Written test for Employability Skills component 8. Practical Test & Vivavoce forPractical Component.   Component wise distribution of marks is given in the Annexure 2 | |
| **Pass/Fail**   |  | | --- | | **Pass/Fail**  Passing criteria is based on marks obtained in Formative and Summative Assessment taken together as mentioned in Annexure No-1   1. Minimum Marks to pass Theory component– 60% 2. Minimum Marks to pass Employability Skills component– 60% 3. Minimum Marks to pass practical component– 70% 4. Minimum attendance required to appear in the final examination- 75% | | |

**SECTION 2**

**EVIDENCE OF LEVEL**

**OPTION A**

| **Title/Name of qualification/component: Asst. House Wireman and Motor Winder Level:** 3 | | | |
| --- | --- | --- | --- |
| **NSQF Domain** | **Outcomes of the Qualification/Component** | **How the outcomes relates to the NSQF level descriptors** | **NSQF Level** |
| Process | Job holder will be able to install or repair plumbing work or sanitary work while maintaining occupational health & safety parameters. | Job holder will understand and comply with safety practices while undertaking works in basic plumbing work. The nature of work involved is repetitive and routine. | Level 3 |
| Professional knowledge | Job holder will be able to   * Understand sketches of plumbing network * Use different tools & equipments * Understand a given drawing for plumbing work and sanitation work. | Job holder will understand the processes in relation with plumbing work. It is also expected that the job holder will be able to comprehend winding principles of AC motors. | Level 4 |
| Professional skill | The user/individual will know and understand how to:   * Make pipe connection for plumbing / sanitation work. * decide defects in welding * decide whether workplace is safe for working and also relevant task is not creating hazardous condition | The job holder will demonstrate use of various tools and materials, different types of layout and also ensure proper piping connection. He/ she will be also able to demonstrate the work involved. The range of application of practical skill is narrow and repetitive. | Level 3 |
| Core skill | The job holder will be able to   * read at least two languages, preferably in the local language of the siteand basic English * read and interpret safety sign boards, signage, tags etc. provided atworkplace * speak in at least one language, preferably in one of the local languages of thesite * listen and interpret instructions / communication by co-workers * listen and follow instructions given by supervisor * orally and effectively communicate with team members * engage in basic financial and banking transactions * Understand principles of time management and entrepreneurship | The job holder will be able to communicate clearly, both in writing and orally, with co-workers, supervisors and customers. He will be able to use basic arithmetic calculations for his work and use basic banking services both on professional and personal level. | Level 3 |
| Responsibility | The job holder will work under the close supervision of supervisor and he will be responsible for   * Understanding safety compliance while engaging in fixing of pipes and fittings. * Preventing any loss of human life by use of appropriate precaution and safety devices * Sanitation work in the rural area for any structures and fix all types of taps, fittings, toilet arrangement, septic tank installation and drainage work | Job holder is required to carry out functions while job holder is doing the tasks independently, with supervision in certain risky jobs. | Level 3 |

**SECTION 3**

**EVIDENCE OF NEED**

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| **What evidence is there that the qualification is needed?**  Government of West Bengal offers 42 courses in VIII+ category and trains approximately 1.5 lakhs beneficiaries per year through its 2400 approved VTCs since last 10 years. Assessment and Certification is done by the West Bengal State Council of Technical & Vocational Education and Skill Development for these courses. ‘Plumber’ is one of these 42 courses which are successfully conducted by Government of West Bengal. |
| **What is the estimated uptake of this qualification and what is the basis of this estimate?**  There has been significant opportunities for the particular course as the course is operational for more than 10 years |
| **What steps were taken to ensure that the qualification does not duplicate already existing or planned qualifications in the NSQF?**  This qualification is being conducted under the West Bengal State Council of Technical & Vocational Education & Skill Development under Department of Technical Education, Training and Skill Development since the academic year 2005 in Vocational Training Centres spread all over West Bengal for class- VIII+ pass dropout youths. In the state of West Bengal the Council is affiliating and awarding body for this qualification. Thus there is no other existing or planned qualification (Short term courses) in the state aligned with NSQF. |
| **What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?**  The council has three well defined sub-committees namely Board of Studies and Skilling, Board of Examination and Recognition Committee. These committees monitor and review the progress of all qualifications under its purview on a regular basis.  This qualification will be reviewed and revised at an interval of three years on the basis of the outcome of the trainees, placement and self-employment data and feedback from concerned industries/employers. |

**SECTION 4**

**EVIDENCE OF PROGRESSION**

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| **What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?**  In case of employment under an employer, he can progress to various level-wise designations, based on either experience or on obtaining subsequent qualifications. This is as shown below.  Jr. Plumber  Plumber Technician  Plumber Contractor |

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